Hitachi Power Tools

TECHNICAL DATA AND SERVICE MANUAL

LIST No. H815
Jul. 2008

C

PRODUCT NAME

Hitachi 18 V Cordless Jig Saw

Model CJ 18DSL

MARKETING OBJECTIVE

The new Model CJ 18DSL is a cordless jig saw equipped with a slide-type lithium-ion battery. The key features of the Model CJ 18DSL are as follows.
(1) Highest cutting capacity in the class thanks to the high-performance motor
(2) Lightest in the class (2.4 kg, 5.3 lbs)
(3) Remaining battery indicator
(4) Equipped with lightweight and high-capacity (3.0 Ah) slide-type lithium-ion battery
We aim to expand our market share with the new cordless jig saw.

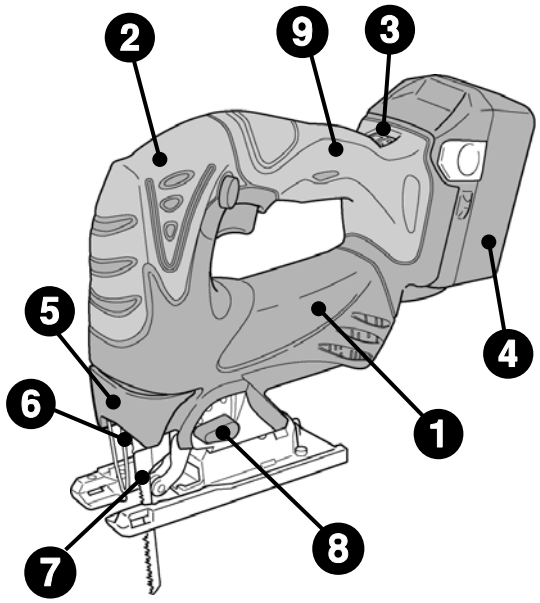
APPLICATIONS

- Cutting or cutting out shapes in various types of wood workpieces
- Cutting various types of metals such as mild steel, aluminum and copper
- Cutting various types of synthetic resin materials such as bakelite and vinyl chloride
- Cutting various decorative sheets and thin and soft construction materials
- Cutting stainless steel sheets

SELLING POINTS

[NEW FEATURES]

1. **Highest cutting capacity in the class**
2. **Lightest in the class**
3. **Remaining battery indicator (switch panel)**
4. **Equipped with the new 18-V lithium-ion battery (slide-type)**
5. **Tool-less blade changing system**
6. **LED lighting system**
7. **Powerful dust blowing**
8. **4-stage orbital action**
9. **Soft grip handle**



SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

HITACHI

Hitachi Koki Co., Ltd.
International Sales Division

REMARK:
For more information about HANDLING INSTRUCTIONS, visit our website at:

http://www.hitachi-koki.com/manual_view_export/

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol(s) is(are) used in the place of company name(s) and model name(s) of our competitor(s). The symbol(s) utilized here is(are) as follows:

Symbols Utilized	Competitors	
	Company Name	Model Name
C	Makita	BJV180

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Assembly diagram for CJ 18DSL

SELLING POINT DESCRIPTIONS

❶ Highest cutting capacity in the class*

*: Based on our own research

The number of wood cutting operations per battery charge by the Model CJ 18DSL is 1.3 times higher than C thanks to the efficient transmission of the cutting energy. For details, refer to "Cutting number comparisons per charge" on page 8.

❷ Lightest in the class*

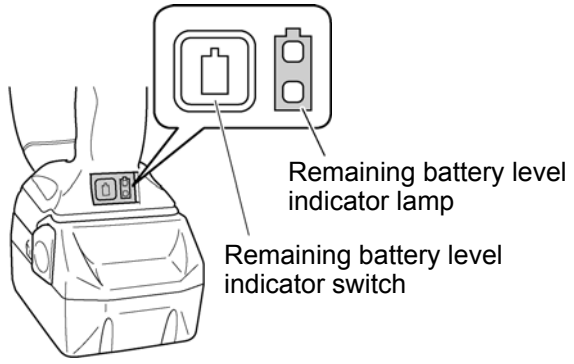
*: Based on our own research

The Model CJ 18DSL is lightest in weight in the class.

Maker	HITACHI		C
Model	CJ 18DSL	CJ 18DL	
Weight	2.4 kg (5.3 lbs)	2.4 kg (5.3 lbs)	2.8 kg (6.1lbs)

❸ Remaining battery indicator (switch panel)

The Model CJ 18DSL is equipped with the remaining battery indicator (switch panel). The battery remaining power can be easily checked by pressing the remaining battery level indicator switch while the Model CJ 18DSL is stopping. Thus the battery can be charged in proper timing.



Indicator lamp	Remaining battery level
	The battery remaining power is enough.
	The battery remaining power is a half.
	The battery remaining power is nearly empty. Charge the battery immediately.

❹ Equipped with the new 18-V lithium-ion battery (slide-type)

Each of the Model CJ 18DSL and the Type BSL 1830 lithium-ion battery is equipped with the overdischarge protection circuit, overcurrent protection circuit and voltage monitoring circuit for each cell to prevent reduction of the battery life due to overdischarge (overuse) or overcurrent (overload). Besides, the overheat protection circuit is provided to protect the battery from overheating.

Precautions for use of the Type BSL 1830 lithium-ion battery

The Type BSL 1830 lithium-ion battery is equipped with a protective function that automatically stops output to extend the battery life. The motor may stop automatically in any of the following cases (a), (b) and (c) even if the switch is depressed continuously during operation. This is because the protective function is activated. The battery is not faulty.

(a) The motor is stopped by the overdischarge protection circuit when the remaining battery level is low and the battery voltage is decreased to about 12 V. In such case, charge the battery immediately.

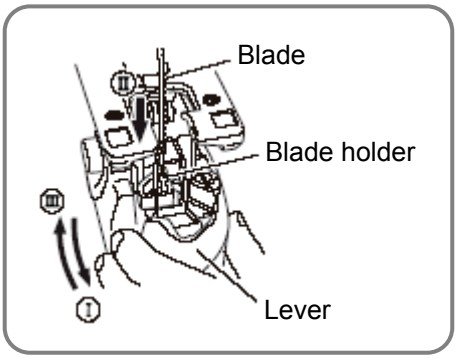
(b) The motor is stopped by the overcurrent protection circuit when the load current of the Model CJ 18DSL is about 75 A or higher. In such case, turn off the switch and turn on again. Then the motor is started. Be careful not to overload the Model CJ 18DSL.

(c) The motor is stopped by the overheat protection circuit when the temperature of the cell in the battery is 80 °C or higher. In such case, remove the battery from the tool and cool it down completely in a well-ventilated shaded area.

❺ Tool-less blade changing system

The blade can be easily changed by opening/closing the lever. Usable blade is only the BOSCH's blade whose thickness at the attaching portion is 1.5 mm or less or an equivalent blade having the same shape.

1) Open the lever fully. (Fig. Ⅰ)
2) Detach the blade from the blade holder.
3) Attach the new blade in the blade holder by pushing as far as it will go. (Fig. Ⅱ)
4) Close the lever. (Fig. Ⅲ)



❻ LED Lighting system

The Model CJ 18DSL is equipped with the LED light for illuminating the blade. To turn on the light, pull the trigger. Release the trigger to turn off.

❼ Powerful dust blowing

The Model CJ 18DSL is equipped with a dust blower mechanism that blows off dust by the air from the motor cooling fan.

❽ 4-stage orbital action

The Model CJ 18DSL is equipped with the orbital mechanism that allows the blade to move up and down and forward and backward. This mechanism makes the blade dig well into wood and other soft materials and also discharges cutting chips well to achieve speedy cutting. For details, refer to “Blade movement” on page 7.

❾ Soft grip handle

The handle of the Model CJ 18DSL is widely covered with soft-touch elastomer (rubber-like soft resin). It is slip-resistant and securely fits in the palm of a hand even if the gripping hand sweats.

SPECIFICATIONS

1. Specifications

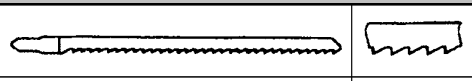
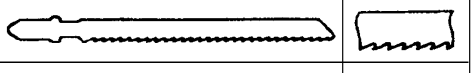
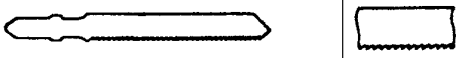
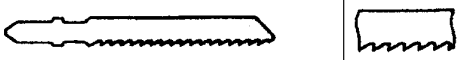
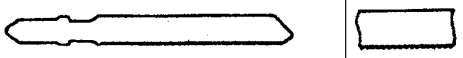
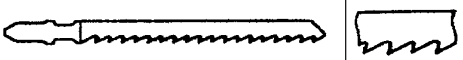
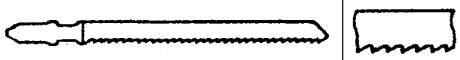
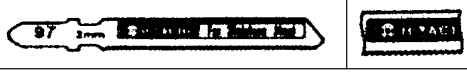
Model		CJ 18DSL
Capacity		Max. cutting thickness Wood 135 mm (5-5/16") Mild steel 10 mm (3/8")
No-load rotation speed		0 to 2,400 min^{-1}
Length of stroke		26 mm (1")
Min. cutting radius		25 mm (1")
Type of motor		DC magnet motor with fan
Type of switch		Trigger switch with rotation selector and brake (with ON-OFF lock)
Max. cutting angle		45° (right and left)
LED light		White LED
Enclosure		Housing ------- Glassfiber reinforced polycarbonate resin and elastomer Gear holder -- Aluminum alloy die casting alloy Battery --------- Glassfiber reinforced polycarbonate resin Charger ------- ABS resin
Weight	Main body	2.4 kg (5.3 lbs) (including the battery)
	Charger (including the cord)	0.6 kg (1.3 lbs)
Overall length, overall height and overall length		277 mm x 213 mm x 76 mm (10-29/32" x 8-3/8" x 2-63/64")
Battery (Type BSL 1830)		Sealed cylindrical lithium-ion storage battery Nominal voltage ------ DC 18 V Nominal life ---------- Charging/discharging: Approx. 1,500 times Nominal capacity ---- 3.0 Ah
Charger (Model UC 18YRSL)		Overcharge protection system: (1) Battery voltage detection (-△V system) Battery temperature detection (dT/dt system) (2) Battery surface temperature detection (thermostat or thermistor) (3) 120-minute timer (4) Stop current detection Power input: 90 W Charging time: Approx. 45 minutes [for Type BSL 1830 battery at 20°C (68°F)] Operable ambient temperature range: 0°C to 40°C (32°F to 104°F) The maximum allowable temperature of the Type BSL 1830 battery is 50°C (122°F). Indicated method of battery charging function
Standard accessory	2LSCK	Charger (UC 18YRSL) ---------- 1 Battery (BSL 1830) ---------- 2 (LSCK: 1) Battery cover ---------- 1 Blade (No. 41) ---------- 1 Splinter guard ---------- 1 Chip cover ---------- 1 Plastic case ---------- 1
	NN	Without charger, battery, battery cover or plastic case

Indications of the pilot lamp

The pilot lamp lights or blinks in red.	Before charging	Blinks	Lights for 0.5 seconds. Does not light for 0.5 seconds. (off for 0.5 seconds)	
	While charging	Lights	Lights continuously	
	Charging complete	Blinks	Lights for 0.5 seconds. Does not light for 0.5 seconds. (off for 0.5 seconds)	
	Charging impossible	Flickers	Lights for 0.1 seconds. Does not light for 0.1 seconds. (off for 0.1 seconds)	Malfunction in the battery or the charger
The pilot lamp lights in green.	Charging impossible	Lights	Lights continuously	The battery temperature is high, making recharging impossible.

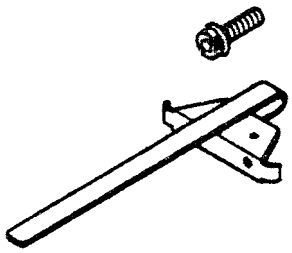
2. Optional accessories

(1) Blades

Blade shape	Application	Blade No.	Pitch	Code No.	Per pkg.
	Wood	No. 1 (Long)	6	321878	3
	Wood, pulp, synthetic resin	No. 11	8	879336	5
		No. 12	20	879337	5
	Steel, pulp, nonferrous metal, synthetic resin	No. 15	8	879338	5
		No. 16	25	879339	5
	Wood, pulp, synthetic resin	No. 21	6	879340	5
		No. 22	10	879341	5
	Stainless steel	No. 97	21	963400	5

NOTE: The standard blade No. 41 and the optional blade No. 21 have the same shape.

(2) Guide

	Code No.
	321593

(3) Sub base (A) (steel)

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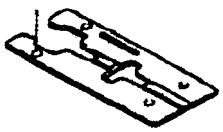
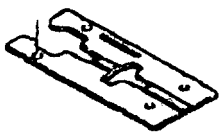
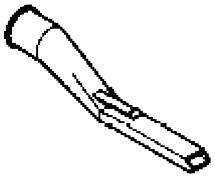
	321992

(4) Sub base (B) (resin)

	Code No.
	321993

(5) Dust collector

	Code No.
	321591

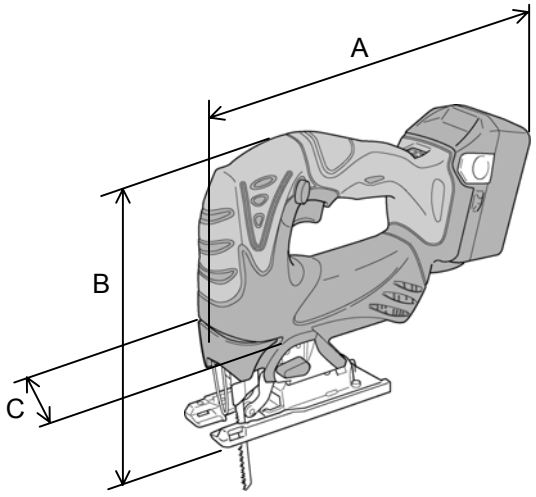
COMPARISONS WITH SIMILAR PRODUCTS

(Superior specifications:)

1. Specification comparisons

Maker		HITACHI		C
Model name		CJ 18DSL	CJ 18DL	
Cutting capacity	Wood	135 mm (5-5/16”)	135 mm (5-5/16”)	135 mm (5-5/16”)
	Mild steel	10 mm (3/8”)	10 mm (3/8”)	10 mm (3/8”)
No-load speed		0 to 2,400 min^{-1}	0 to 2,400 min^{-1}	0 to 2,600 min^{-1}
Min. cutting radius		25 mm (1”)	25 mm (1”)	Not indicated
Length of stroke		26 mm (1”)	26 mm (1”)	26 mm (1”)
Max. cutting angle		45° (right and left)	45° (right and left)	45° (right and left)
LED light		White LED	White LED	White LED
Tool-less blade attachment		Provided	Provided	Provided
Soft grip handle		Provided	Provided	Provided
Changeover of impact energy		Provided	Provided	Not indicated
Remaing battery indicator		Provided	Not provided	Not provided
Dimensions	Length (A)	277 mm (10-29/32")	274 mm (10-25/32")	255 mm (10-1/8")
	Height (B)	213 mm (8-3/8")	213 mm (8-3/8")	208 mm (8-3/16")
	Width (C)	76 mm (2-63/64")	76 mm (2-63/64")	73 mm (2-7/8")
Weight		2.4 kg (5.3 lbs)	2.4 kg (5.3 lbs)	2.8 kg (6.1 lbs.)
Battery	Type	Li-ion	Li-ion	Li-ion
	Attachment	Slide type	Plug-in type	Slide type
	Nominal capacity	3.0 Ah	3.0 Ah	3.0 Ah
	Nominal voltage	18 V	18 V	18 V
	Protection circuit	Provided	Provided	Not indicated
	Charging time *1	45 min.	45 min.	22 min.

*1: Charging time may vary depending on the type of charger to be used.



2. Cutting number comparisons per charge

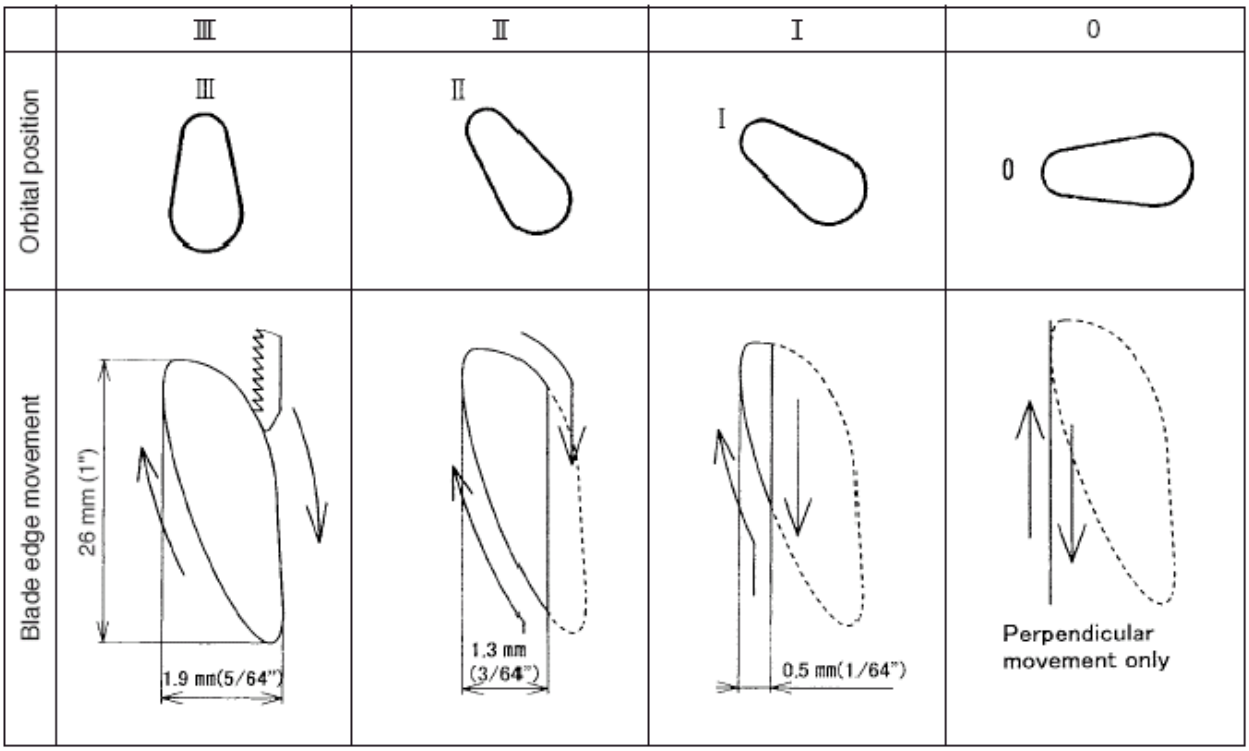
The number of cutting operations per battery charge may vary widely depending on hardness of wood or mild steel, sharpness of the blade and other factors. Use the test results shown below for reference purposes only.

Material	Maker	Model	Number of cutting operations per charge (0 20 40 60 80 100 120)
Wood (24 mm thick x 330 mm)	HITACHI	CJ 18DSL	127
	HITACHI	CJ 18DL	127
	C		96
Mild steel (2 mm thick x 100 mm)	HITACHI	CJ 18DSL	40
	HITACHI	CJ 18DL	40
	C		30

ORBITAL MECHANISM AND BLADE

1. Blade movement

In the Model CJ 18DSL, the orbital mechanism moves the blade up-and-down and forward-and-backward. The amount of fore-and-aft blade movement can be adjusted just by turning the change knob to any of the four settings. The following table shows the modeled orbits of blade movement at each orbital position (change knob position).



2. Orbital position selection

Selection of the most appropriate orbital position for each cutting job is essential to achieve the best efficiency for cutting. However, as the best orbital position depends on such factors as hardness and thickness of the workpiece, desired finish of the cut surface and so on, it is not practical to set a single, simple standard for best orbital position selection. Table 1 can be used as a general guide for appropriate orbital position selection based on various factors.

Table 1　General guide for appropriate orbital position selection

Factor	Orbital position Ⅲ Ⅱ Ⅰ 0	
Material hardness	Soft material	Hard material
Material thickness	Thick	Thin
Cutting speed	Faster cutting	Slower cutting
Straight cutting or curved cutting	Straight cutting	Curved cutting
Surface finishing	Rough finish acceptable (splintering, chipping acceptable)	Fine finishing
Material stability	Unstable	Very stable

3. Blades

Proper blade selection is very important to obtain the maximum performance of the Model CJ 18DSL. The table below, based on type and thickness of the material to be cut, can be used as a handy reference in selecting the optimum blade.

Material to be cut	Material quality \ Blade	No.1 (Long)	No.1 (Super long)	No.11	No.12, 42	No.15	No.16, 46	No.21	No.22	No.41	No.97	123X
		Thickness of material (mm)										
Lumber	General lumber	Below 105	Below 110	10 – 55	Below 20			10 – 55	5 – 40	10 – 65		
	Plywood			5 – 30	Below 10			5 – 30	3 – 20			
Iron plate	Mild steel plate					3 – 6	Below 3				2 – 5	1.5 – 10
	Stainless steel plate										1.5 – 2.5	
Nonferrous metal	Aluminum copper, brass					3 – 12	Below 3				Below 5	
	Aluminum sash					Height up to 25					Height up to 25	Height up to 30
Plastics	Phenol resin, melamin, resin, etc.					5 – 20	Below 6	5 – 15	Below 6		5 – 15	
	Vinyl chloride, acryl resin, etc.			5 – 30	Below 10	5 – 20	Below 5	5 – 30	3 – 20		5 – 15	
	Foamed polyethylene, foamed styrol			10 – 55	3 – 25	5 – 25	3 – 25	10 – 55	3 – 40		5 – 25	
Pulp	Card board, corrugated paper			10 – 55	3 – 25			10 – 55	3 – 40			
	Hardboard					3 – 25	Below 6				3 – 25	
	Fiberboard						Below 6					

NOTE :

The minimum cutting radius of No. 1 (Long), No.1 (Super long), No. 21, No. 22 and No. 41 blades is 100 mm.

PRECAUTIONS IN SALES PROMOTION

1. Safety instructions

In the interest of promoting the safest and most efficient use of the Model CJ 18DSL Cordless Jig Saw by all of our customers, it is very important that at the time of sale, the salesperson carefully ensures that the buyer seriously recognizes the importance of the contents of the Handling Instructions, and fully understands the meaning of the precautions listed on the Caution Plate and the Name Plate attached to each tool.

A. Handling instructions

Salespersons must be thoroughly familiar with the contents of the Handling Instructions in order to give pertinent advice to the customer. In particular, they must have a thorough understanding of the precautions for use of the cordless tools which are different from those of ordinary electric power tools.

(1) Before use, ensure that the unit is fully charged.
New units are not fully charged. Even if the units were fully charged at the factory, long periods of inactivity, such as during shipping, cause the storage battery to lose its charge. Customers must be instructed to fully charge the unit prior to use.

(2) Connect the charger to an AC power outlet only.
Use of any other power source (DC outlet, fuel powered generator, etc.) will cause the charger to overheat and burn out.

(3) Do not use any voltage increasing equipment (transformer etc.) between the power source and the charger.
If the charger is used with voltage higher than that indicated on the unit, it will not function properly.

(4) Conduct battery charging at an ambient temperature range of 0°C to 40°C (32°F to 104°F).
Special temperature sensitive devices are employed in the charger to permit rapid charging. Ensure that customers are instructed to use the charger at the indicated ambient temperature range. At temperature under 0°C (32°F) the thermostat will not function properly, and the storage battery may be overcharged. At temperature over 40°C (104°F), the storage battery cannot be sufficiently charged. The optimum temperature range is 20°C to 25°C (68°F to 77°F).

(5) The battery charger should not be used continuously.
At high ambient temperature, if over three storage batteries are charged in succession, the temperature of the coils on the transformer will rise and there is a chance that the temperature fuse inserted in the interior of the transformer will inadvertently melt. After charging one battery, please wait about 15 minutes before charging the next battery.

(6) Do not insert foreign objects into the air vents on the charger.
The charger case is equipped with air vents to protect the internal electronic components from overheating. Caution the customer not to allow foreign materials, such as metallic or flammable objects, to be dropped or inserted into the air vents. This could cause electrical shock, fire, or other serious hazards.

(7) Do not attempt to disassemble the storage battery or the charger.
Special devices, such as a thermostat, are built into the storage battery and the charger to permit rapid charging. Incorrect parts replacement and/or wiring will cause malfunctions which could result in fire or other hazards. Instruct the customer to bring these units to an authorized service center in the event repair or replacement is necessary.

(8) Disposal of the storage batteries
Ensure that all customers understand that storage batteries should be returned to the Hitachi power tool sales outlet or the authorized service center when they are no longer capable of being recharged or repaired. If thrown into a fire, the battery may explode.

(9) Keep the battery out of dust.
- Protect the battery from being covered with dust during operation.
- Protect the battery from being covered with dust accumulated on the Model CJ 18DSL during operation.
- Do not leave the battery in a dusty area when not in use.
- Remove dust from the battery and store it separating from metallic parts such as screws and nails.

B. Caution plate

(1) The following cautions are listed on the name plate attached to the main body of each tool.

[For the U.S.A. and Canada]

WARNING
- To reduce the risk of injury, user must read and understand instruction manual.

AVERTISSEMENT
- Afin de réduire le risque de blessures, l'utilisateur doit lire et bien comprendre le mode d'emloi.

(2) The following cautions are listed on the name plate attached to each storage battery.

[For Europe]

CAUTION
- Read thoroughly HANDLING INSTRUCTIONS before use.
- Do not disassemble nor throw into fire.

[For the U.S.A. and Canada]

CAUTION
- For safe operation, see instruction manual.
- Use HITACHI charger recommended in instruction manual for recharging.

(3) The following cautions are listed on the name plate attached to the Model UC 18YRSL charger.

[For the U.S.A. and Canada]

CAUTION
- **For safe operation, see instruction manual.**
- **Charge HITACHI rechargeable batteries types BSL 14 and BSL 18 series. Other types of batteries may burst causing personal injury and damage.**
- **Charge between 32 °F and 104 °F. Rest 15 minutes between the charging of batteries.**
- **Indoor use only.**
- **Replace defective cord immediately.**

2. Particular attention during sales promotion

The cordless jig saw offers many advantages: it can be used in places where no power source is available, the absence of a cord allows easy use, etc. However, in comparison with conventional AC type jig saws, there are certain precautions which require particular attention. Salespersons must be thoroughly familiar with the following points to properly advise the customer on the most efficient use of the tool.

A. Suggestions and precautions for the efficient use of the tool

(1) Appropriate cutting capacity of the Model CJ 18DSL

The Model CJ 18DSL is not capable of cutting dozens of workpieces like a conventional AC type jig saw because it is a cordless jig saw powered by a battery. If the customer wishes to use the tool to cut many workpieces in succession, please recommend that a spare battery should be kept available for use.

(2) Variation in amount of work possible per charge

Although the nominal capacity of the storage battery used with the Model CJ 18DSL is 3.0 Ah, the actual capacity may vary within 10% of that value depending on the ambient temperature during use and recharging, and the number of times the battery has been recharged.

It should also be noted that other factors which may have a bearing on the amount of work possible per charge are the working conditions (ambient temperature, type and moisture content of the workpieces, sharpness of the blade, etc.) and the operational skill of the user.

REPAIR GUIDE

Be sure to remove the storage battery from the main body before servicing. Inadvertent triggering of the switch with the storage battery connected will result in danger of accidental turning of the motor.

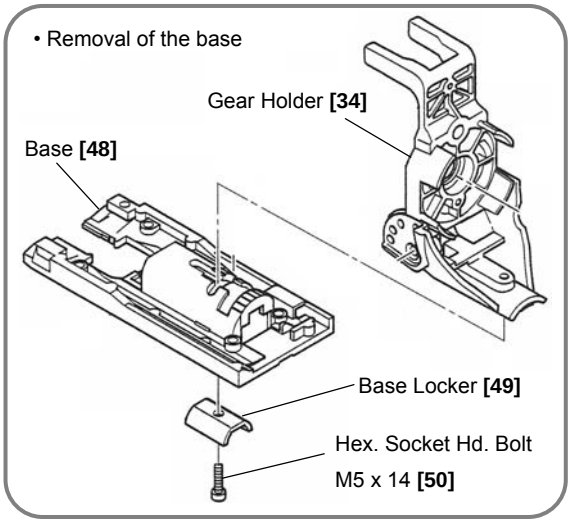
1. Precautions in disassembly and reassembly

The **[Bold]** numbers in the description below correspond to the item numbers in the Parts List and the exploded assembly diagram for the Model CJ 18DSL.

Disassembly

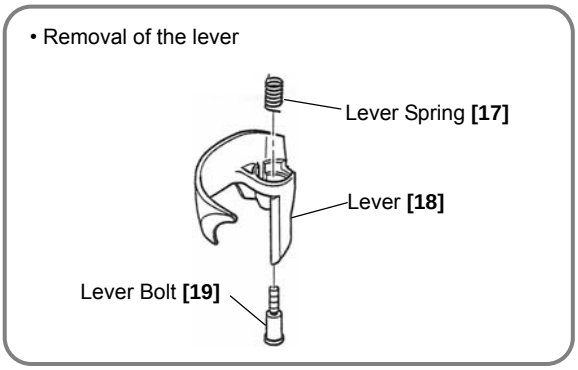
1. Removal of the base

Loosen the Hex. Socket Hd. Bolt M5 x 14 **[50]** and remove the Gear Holder **[34]** together with the Base Locker **[49]**.



2. Removal of the lever

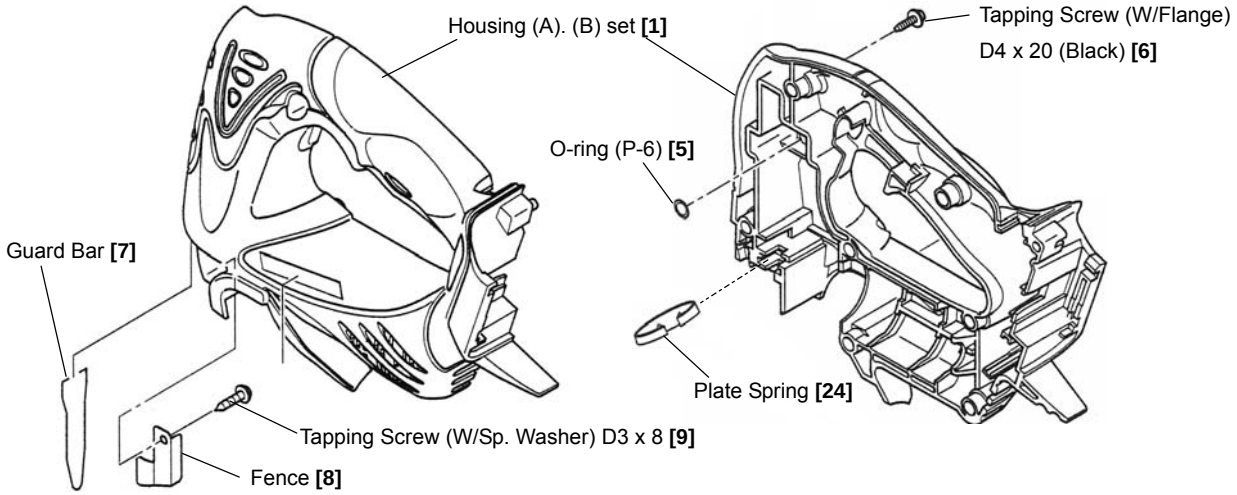
Loosen the Lever Bolt **[19]** and remove the Lever **[18]** and the Lever Spring **[17]**.



3. Disassembly of housing (A).(B) set

(1) Remove the Guard Bar **[7]**.
(2) Loosen the eight Tapping Screws (W/Flange) D4 x 20 (Black) **[6]** and open the housing.
(3) Remove the Plate Spring **[24]** from the housing.
(4) Loosen the Tapping Screw (W/Sp.Washer) D3 x 8 **[9]** and remove the Fence **[8]** from the housing.
(5) The other housing can then be removed from the main body. After disassembly, remove the two O-rings (P-6) **[5]** from both sides of the housing.

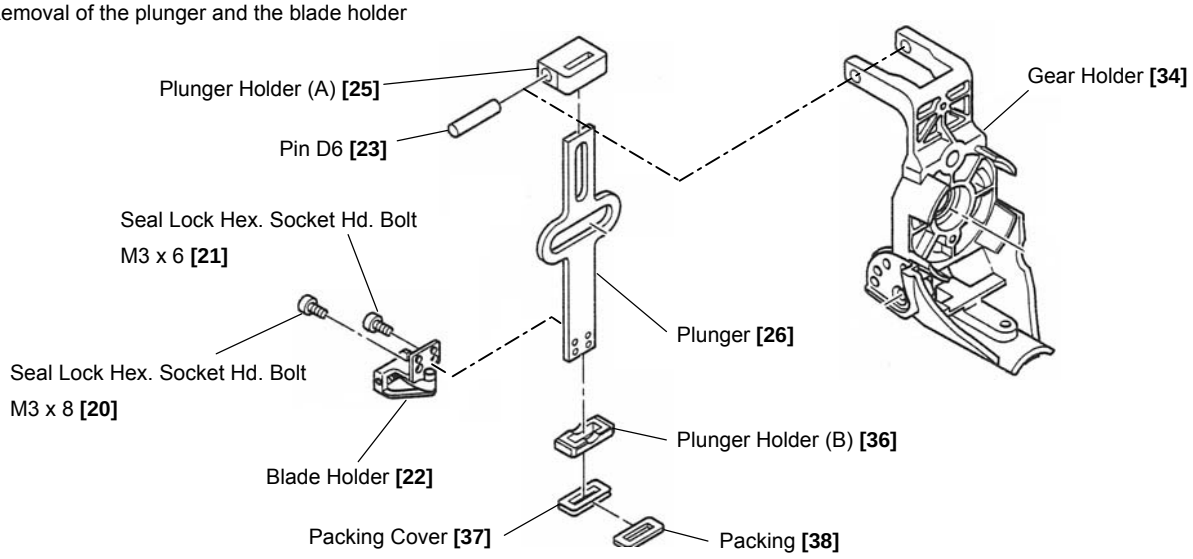
• Removal of the housing


Housing (A). (B) set [1]
Tapping Screw (W/Flange)
D4 x 20 (Black) [6]
O-ring (P-6) [5]
Guard Bar [7]
Plate Spring [24]
Tapping Screw (W/Sp. Washer) D3 x 8 [9]
Fence [8]

4. Removal of the plunger and the blade holder

(1) Pull out the Pin D6 **[23]** from the Gear Holder **[34]**, and remove the Plunger **[26]** and Plunger Holder (A) **[25]**.
(2) Loosen the Seal Lock Hex. Socket Hd. Bolt M3 x 6 **[21]** and the Seal Lock Hex. Socket Hd. Bolt M3 x 8 **[20]**, and remove the Blade Holder **[22]**.
(3) Pull out the Packing Cover **[37]**, Packing **[38]** and Plunger Holder (B) **[36]** from the Plunger **[26]**.

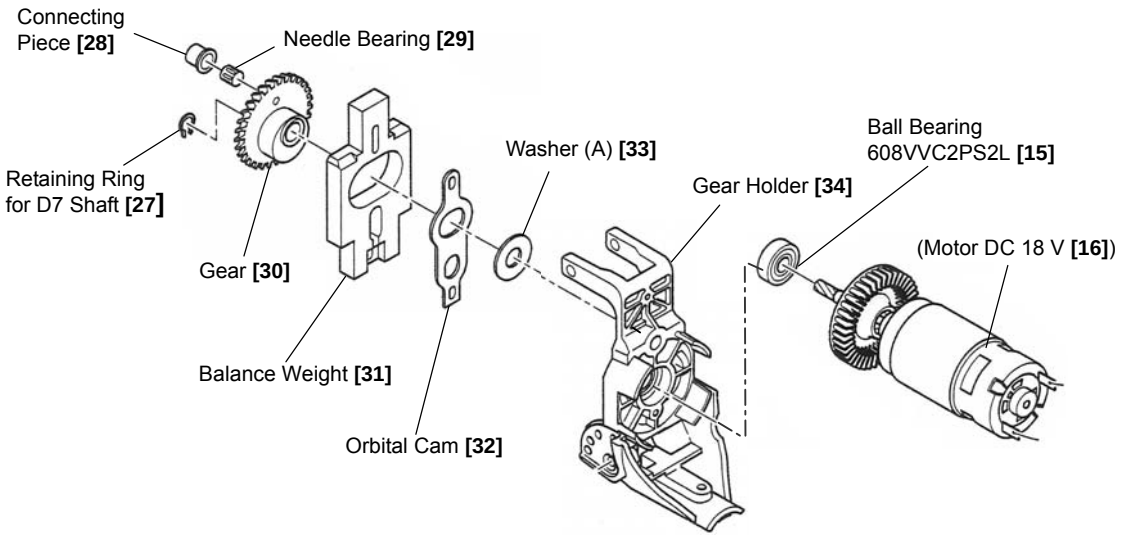
• Removal of the plunger and the blade holder



5. Removal of the gear holder and the motor

(1) Pull out the Connecting Piece **[28]** and the Needle Bearing **[29]** from the Gear **[30]**.
(2) Remove the Retaining Ring for D7 Shaft **[27]** from the tip of the spindle.
(3) Remove the Gear **[30]**, Balance Weight **[31]**, Orbital Cam **[32]** and Washer (A) **[33]** in order.
(4) Pull out the Ball Bearing 608VVC2PS2L **[15]** and the Motor DC 18 V **[16]** press-fitted in the Gear Holder **[34]**.

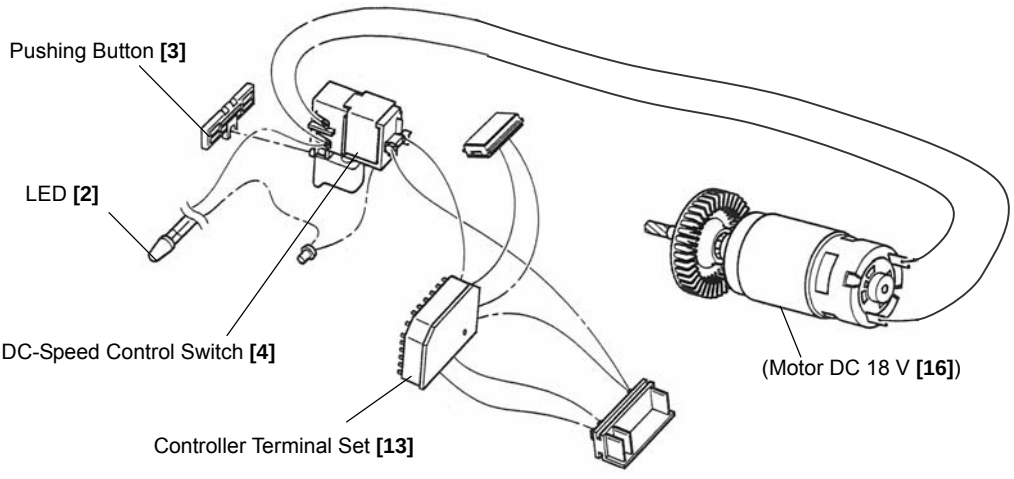
• Removal of the gear holder and the motor



6. Removal of the DC-speed control switch and the wiring of the motor

(1) Remove the Pushing Button **[3]** and the Switch Ass'y **[51]** (including the LED **[2]**, DC-Speed Control Switch **[4]** and terminal) from the housing.
(2) Cut the lead wire (red) and the lead wire (black) wired from the LED **[2]** to the DC-Speed Control Switch **[4]**.
(3) Cut the lead wire (red) and the lead wire (black) wired from the Motor DC 18 V **[16]** to the DC-Speed Control Switch **[4]**.
(4) Cut the lead wire (blue) and the lead wire (brown) wired from the DC-Speed Control Switch **[4]** to the terminal.

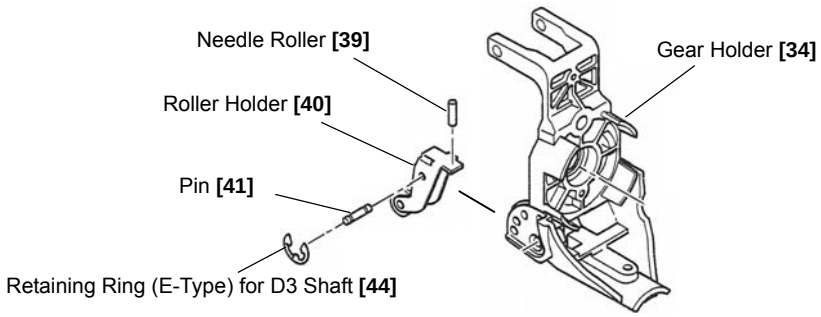
• Removal of the DC-speed control switch and the wiring of the motor



7. Removal of the roller holder

(1) Remove the two Retaining Rings (E-Type) for D3 Shaft **[44]** from the Pin **[41]**.
(2) Pull out the Needle Roller **[39]** press-fitted in the Gear Holder **[34]** and remove the Roller Holder **[40]**.
(3) Remove the Needle Roller **[39]** from the Gear Holder **[34]**.

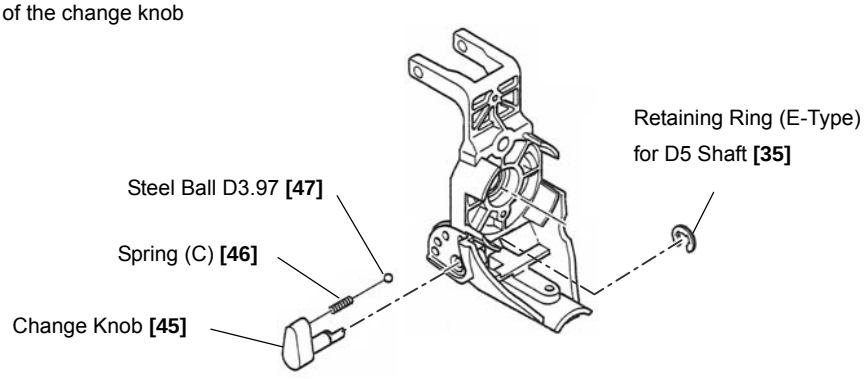
• Removal of the roller holder



8. Removal of the change knob

(1) Remove the Retaining Ring (E-Type) for D5 Shaft **[35]** and remove the Change Knob **[45]**, Spring (C) **[46]** and Steel Ball D3.97 **[47]**.
(2) Be careful not to lose Spring (C) **[46]** and the Steel Ball D3.97 **[47]**.

• Removal of the change knob



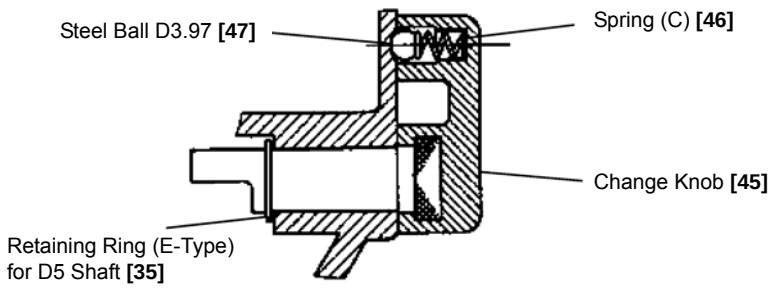
Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

1. Mounting the change knob

Mount Spring (C) **[46]** and the Steel Ball D3.97 **[47]** into the Change Knob **[45]** as shown in the figure below.

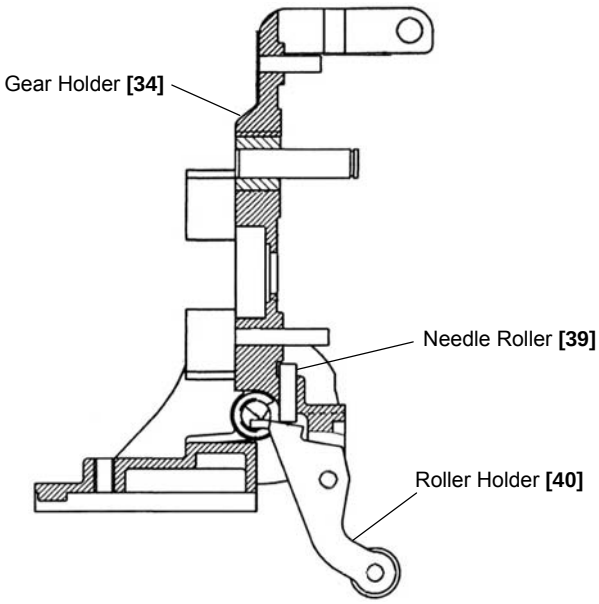
• Mounting the change knob



2. Mounting the gear holder

Before mounting the Roller Holder **[40]**, be sure to insert the Needle Roller **[39]** into the designated position of the Gear Holder **[34]** because the Needle Roller **[39]** cannot be inserted after mounting the Roller Holder **[40]**.

• Mounting the gear holder



3. Reassembly of the power supply unit

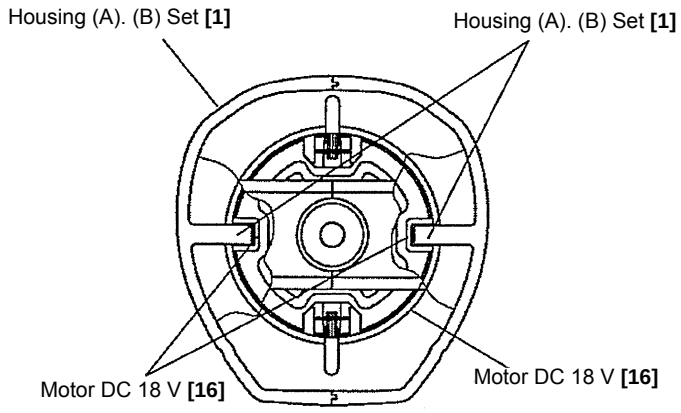
(1) Perform wiring according to the following wiring diagram when replacing the Switch Ass'y **[51]** (including the LED **[2]**, DC-Speed Control Switch **[4]** and Controller Terminal Set **[13]**), Motor DC 18 V **[16]**, LED **[2]**, DC-Speed Control Switch **[4]** and Controller Terminal Set **[13]**.
(2) Mount the Controller Terminal Set **[13]** aligning with the locking rib of the housing. At this time, pay attention to the direction of the battery terminal and the remaining battery indicator.
(3) Push the internal wires of the LED **[2]** and the Motor DC 18 V **[16]** in the groove of Housing (A).(B) Set **[1]** properly so that they are not pinched.

NOTE:
If black oxide is adhered to the contact point between the terminal support and the battery or if the plating is peeled off, the temperature of the contact point may increase, causing malfunction of the battery or the Model CJ 18DSL. In such case, replace the Controller Terminal Set [13] with new one (Code No. 330070).

4. Mounting the motor

(1) Mount the Motor DC 18 V **[16]** to Housing (A).(B) Set **[1]** aligning the concave portion of the Motor DC 18 V **[16]** with the convex portion of Housing (A).(B) Set **[1]**.

• Mounting the motor



5. Reassembly of housing (A).(B) set

(1) Before closing Housing (A).(B) Set **[1]**, check that the Plate Spring **[24]** and the Packing Cover **[37]** are properly mounted in the housing to prevent them from being deformed.
(2) Do not fail to mount the O-ring (P-6) **[5]** and the Plate Spring **[24]**.

Application of lubricant

Apply 20 g of Shell Albania (RL3) grease to the following parts.
• Pinion of the Motor DC 18 V **[16]**
• Tooth flanks and outer circumference of the shank of the Gear **[30]**
• Sliding section of the Balance Weight **[31]** (including the inner surface of the oval hole)
• Sliding section of the Orbital Cam **[32]** (including the inner surface of the oval hole)
• Sliding section of Washer (A) **[33]**
• Sliding section of Plunger Holder (A) **[25]**

Apply 10 g of Molub-Alloy (777-1) grease to the inner and outer circumferences of the Connecting Piece **[28]**.

Apply 2 g of grease (BC-4) to the sliding section of the Plunger **[26]** and the sliding section and the inside of the Plate Spring **[24]**.

Screw tightening torque

• Tapping Screw (W/Flange) D4 x 20 (Black) **[6]** ---------- : 2.0 ± 0.5 N・m (20 ± 5 kgf・cm)
• Tapping Screw (W/Sp. Washer) D3 x 8 **[9]**---------- : 1.5 ± 0.4 N・m (15 ± 4 kgf・cm)
• Lever Bolt **[19]**---------- : 2.5 ± 0.5 N・m (25 ± 5 kgf・cm)
• Seal Lock Hex. Socket Hd. Bolt M3 x 8 **[20]**---------- : 2.5 ± 0.5 N・m (25 ± 5 kgf・cm)
• Seal Lock Hex. Socket Hd. Bolt M3 x 6 **[21]**---------- : 2.5 ± 0.5 N・m (25 ± 5 kgf・cm)
• Machine Screw (W/Washer) M4 x 8 (Black) **[42]** ---------- : 2.0 ± 0.5 N・m (20 ± 4 kgf・cm)
• Hex. Socket Hd. Bolt M5 x 14 **[50]**---------- : 3.9 to 5.8 N・m (40 to 60 kgf・cm)

Checking after reassembly

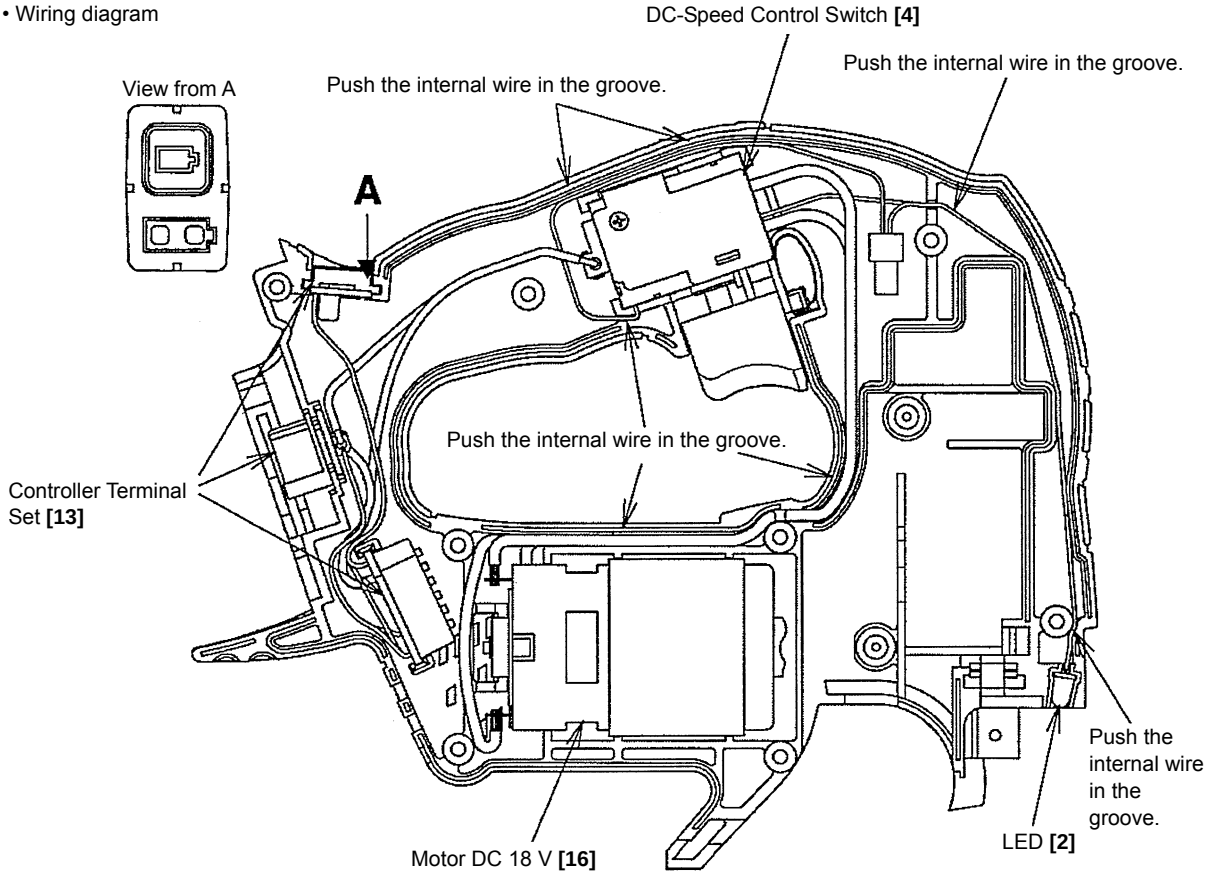
Check the following after reassembly.
(1) Check that the switching operation of the DC-Speed Control Switch **[4]** and the Pushing Button **[3]** is smooth.
(2) Check that the LED **[2]** lights by depressing the trigger of the DC-Speed Control Switch **[4]**.
(3) Check that the stroke speed changes depending on the depressing amount of the trigger of the DC-Speed Control Switch **[4]**.
(4) Check that the blade can be attached securely.
(5) Check that the remaining battery indicator lamp lights by pressing the remaining battery indicator switch and goes off by releasing your finger from the remaining battery indicator switch.

No-load current

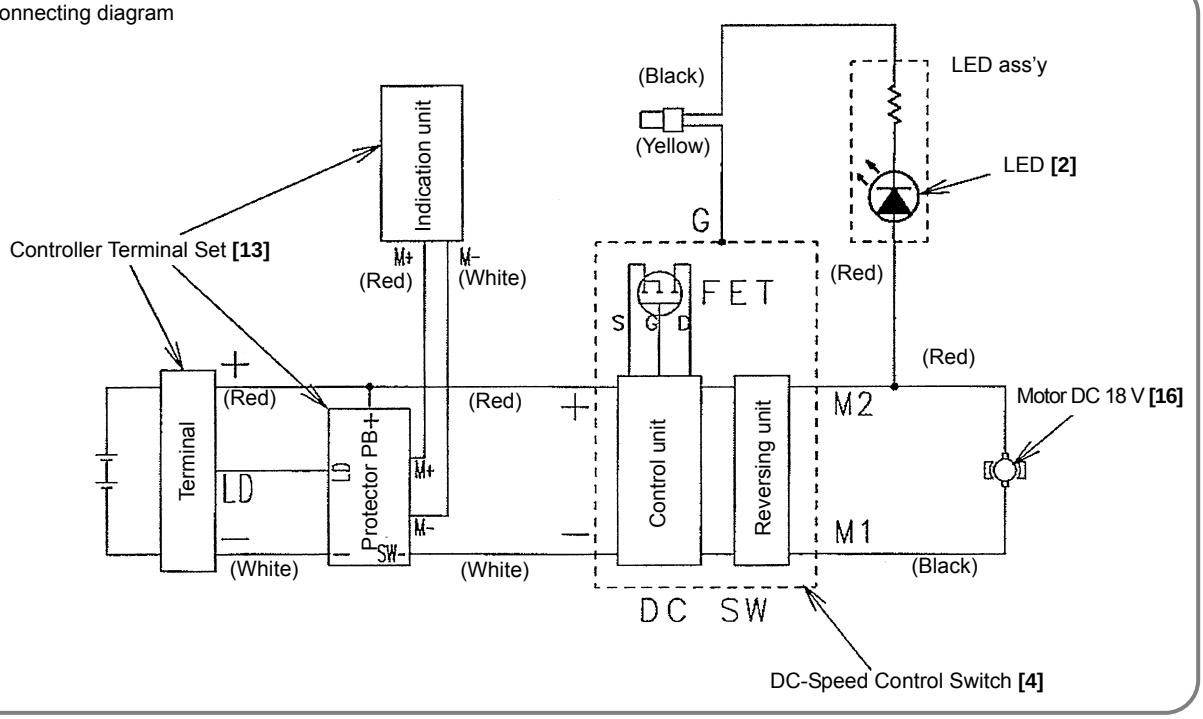
No-load current: 7.5 A or lower (18 V)

Wiring diagram

• Wiring diagram


DC-Speed Control Switch [4]
Push the internal wire in the groove.
Push the internal wire in the groove.
View from A
A
Push the internal wire in the groove.
Controller Terminal Set [13]
Push the internal wire in the groove.
Motor DC 18 V [16]
LED [2]

• Connecting diagram



2. Precautions in disassembly and reassembly of battery charger

Refer to the Technical Data and Service Manual for precautions in disassembly and reassembly of the battery charger Model UC 18YRSL.

STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable / Fixed	10	20	30	40	50	60 min.
CJ 18DSL	Work Flow						
		Base Base Locker					
			Motor Ass'y Ball Bearing (608VV) DC-Speed Control Switch Controller	Housing (A). (B) Set			
	General Assembly	Fence Lever Spring Lever		Connecting Piece Needle Bearing Gear Balance Weight Orbital Cam Washer (A)			
			Gear Holder Ass'y Roller Holder Ass'y Change Knob Spring (C) Steel Ball				
				Plunger Holder (A) Plunger Plunger Holder (B) Packing Cover Packing Blade Holder			

Hitachi Power Tools

LIST NO. H815

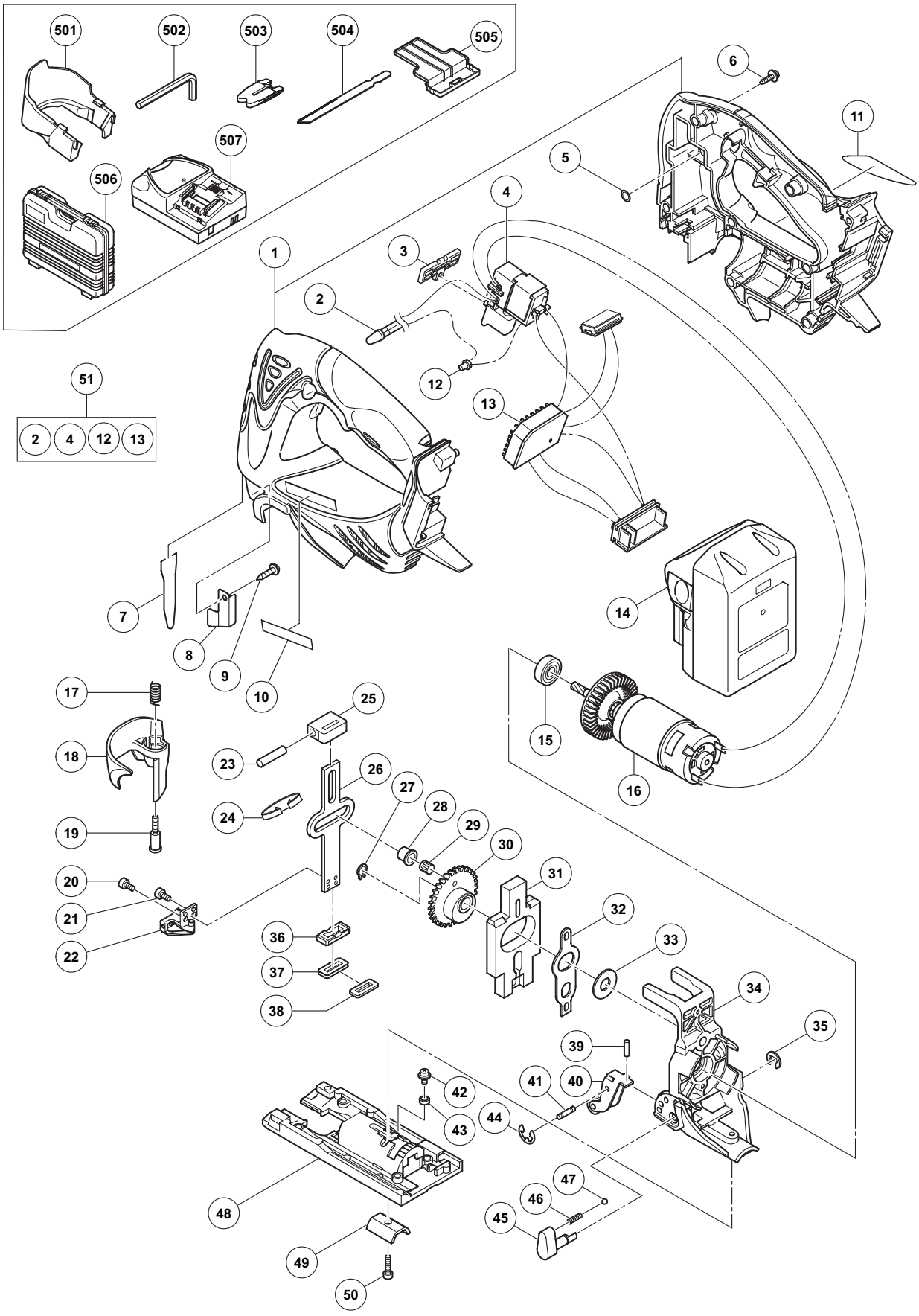
ELECTRIC TOOL PARTS LIST

■ CORDLESS JIG SAW

2008·7·9

Model CJ 18DSL

(E1)



	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	1	330-071	HOUSING (A). (B) SET	1		
	2	328-336	LED	1		
	3	319-760	PUSHING BUTTON	1		
	4	328-335	DC-SPEED CONTROL SWITCH	1		
	5	984-528	O-RING (P-6)	4		
	6	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	8		
	7	328-349	GUARD BAR	1		
	8	321-592	FENCE	1		
	9	984-327	TAPPING SCREW (W/SP. WASHER) D3X8	1		
	10		HITACHI LABEL	1		
	11		NAME PLATE	1		
	12	959-140	CONNECTOR 50091 (10 PCS.)	1		
	13	330-070	CONTROLLER TERMINAL SET	1		
*	14	330-068	BATTERY BSL 1830 (EUROPE, AUS, NZL)	2	INCLUD. 505	
*	14	330-067	BATTERY BSL 1830 (USA, CAN)	1	INCLUD. 505	
	15	608-VVM	BALL BEARING 608VVC2PS2L	1		
*	16	328-361	MOTOR DC 18V	1		
*	16	328-739	MOTOR DC 18V	1	FOR USA, CAN	
	17	321-580	LEVER SPRING	1		
	18	328-347	LEVER	1		
	19	328-348	LEVER BOLT	1		
	20	325-241	SEAL LOCK HEX. SOCKET HD. BOLT M3X8	1		
	21	325-077	SEAL LOCK HEX. SOCKET HD. BOLT M3X6	1		
	22	325-076	BLADE HOLDER	1		
	23	983-564	PIN D6	1		
	24	325-071	PLATE SPRING	1		
	25	325-070	PLUNGER HOLDER (A)	1		
	26	328-343	PLUNGER	1		
	27	994-251	RETAINING RING FOR D7 SHAFT	1		
	28	328-342	CONNECTING PIECE	1		
	29	325-242	NEEDLE BEARING	1		
	30	328-341	GEAR	1		
	31	328-340	BALANCE WEIGHT	1		
	32	328-339	ORBITAL CAM	1		
	33	957-540	WASHER (A)	1		
	34	328-328	GEAR HOLDER	1		
	35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
	36	328-344	PLUNGER HOLDER (B)	1		
	37	328-346	PACKING COVER	1		
	38	328-345	PACKING	1		
	39	328-329	NEEDLE ROLLER	1		
	40	328-330	ROLLER HOLDER	1		
	41	328-331	PIN	1		
	42	315-500	MACHINE SCREW (W/WASHER) M4X8 (BLACK)	1		
	43	321-576	RUBBER BUSHING	1		
	44	872-971	RETAINING RING (E-TYPE) FOR D3 SHAFT	2		
	45	328-332	CHANGE KNOB	1		
	46	982-454	SPRING (C)	1		
	47	959-155	STEEL BALL D3.97 (10 PCS.)	1		
	48	321-573	BASE	1		

PARTS

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
49	321-575	BASE LOCKER	1		
50	949-665	HEX. SOCKET HD. BOLT M5X14 (10 PCS.)	1		
51	330-069	SWITCH ASS'Y	1	INCLUD. 2, 4, 12, 13	

STANDARD ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
501	328-352	CHIP COVER	1		
502	944-458	HEX. BAR WRENCH 4MM	1		
503	321-590	TABLE INSERT	1		
504	879-357	JIG SAW BLADE NO.41 (5 PCS.)	1		
* 505	329-897	BATTERY COVER	1	FOR EUROPE, AUS, NZL	
506	328-351	CASE	1		
507		CHARGER (MODEL UC 18YRSL)	1		

OPTIONAL ACCESSORIES

CJ 18DSL

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
601	879-336	JIG SAW BLADES NO.11 (5 PCS.)	1		
602	879-337	JIG SAW BLADES NO.12 (5 PCS.)	1		
603	879-338	JIG SAW BLADES NO.15 (5 PCS.)	1		
604	879-339	JIG SAW BLADES NO.16 (5 PCS.)	1		
605	879-340	JIG SAW BLADES NO.21 (5 PCS.)	1		
606	879-341	JIG SAW BLADES NO.22 (5 PCS.)	1		
607	963-400	JIG SAW BLADES NO.97 FOR STAINLESS (5PCS)	1		
608	321-593	GUIDE	1		
609	321-992	SUB BASE (A) SET (STEEL)	1	INCLUD. 611	
610	321-993	SUB BASE (B) SET (PLASTIC)	1	INCLUD. 611	
611	321-996	SPECIAL BOLT	4		
612	321-591	DUST COLLECTOR	1		
613	325-149	GREASE (MOLUB-ALLOY NO.777-1) 75G	1		